

CLAIMS

1. A travel working machine comprising: a traveling body supported by a traveling contrivance such as a wheel and provided
5 with an engine; a transmission case mounted to the traveling body; and a hydraulic mechanical transmission provided at the transmission case for changing speed of power from the engine by a combination of a planetary gearing and a hydraulic transmission which includes a hydraulic pump and a hydraulic
10 motor and transmitting the power to the traveling contrivance;

wherein the transmission case is internally provided with a pump input shaft for the hydraulic pump, a motor output shaft for output from the motor and a transmission gear at each of the shafts, these shafts and gears being arranged above an oil
15 level of lubricating oil stored in a lower portion of the transmission case.

2. The travel working machine according to claim 1, wherein the hydraulic pump and the hydraulic motor are housed in a power
20 driving case attached to an outer surface of the transmission case so that the cases serve as a single unit.

3. The travel working machine according to claim 1 or 2, wherein the planetary gearing is positioned above the oil level of the
25 lubricating oil in the transmission case, and wherein at least one of gears provided in the transmission case has a lower portion of an outer circumference immersed in the lubricating oil, and

is positioned adjacent to the planetary gearing so that lubricating oil splashed up by the rotation of said at least one gear splashes onto the planetary gearing.

5 4. The travel working machine according to claim 3, further comprising a carrier for supporting planet gears of the planetary gearing which are rotatably fitted to support shafts, wherein a circumferentially-extending annular groove is provided at an outer circumferential surface of the carrier, an upper portion
10 of said at least one gear faces the annular groove, and the planetary gearing is formed with an oil passage communicating with the annular groove.

5. A travel working machine comprising a traveling body supported
15 by a traveling contrivance such as a wheel and provided with an engine, a transmission case mounted to the traveling body, and a hydraulic mechanical transmission provided at the transmission case for changing speed of driving force from the engine by a combination of a planetary gearing and a hydraulic
20 transmission which includes a hydraulic pump and a hydraulic motor and transmitting the power to the traveling contrivance,

wherein the travel working machine further comprises a bracket removably mounted to the transmission case to close a window penetrating the transmission case, and wherein the
25 bracket supports a PTO shaft so as to project from the bracket to transmit power to a working machine connected to the travel working machine and is provided with a power input unit for

inputting power from the engine to the PTO shaft and a clutch mechanism for switching on and off power transmission to the PTO shaft.

- 5 6. The travel working machine according to claim 4, wherein the power input unit is provided with a coupling into which, in mounting the bracket to the transmission case, a power transmission shaft for transmitting power from the engine is inserted for connection.

10

7. A travel working machine comprising a traveling body supported by a traveling contrivance such as a wheel and provided with an engine, a transmission case mounted to the traveling body, and a hydraulic mechanical transmission provided at the
15 transmission case for changing speed of power from the engine by a combination of a planetary gearing and a hydraulic transmission which includes a hydraulic pump and a hydraulic motor and transmitting the power to the traveling contrivance,

- wherein the transmission case is provided with a clutch
20 mechanism which supports a PTO shaft for transmitting power to a working machine connected to the travel working machine and switches on and off power transmission from the engine to the PTO shaft, and a brake mechanism for braking rotation of the PTO shaft by pressing a rotation-side braking member, which
25 is rotatable with the PTO shaft, against a non-rotation-side braking member, and wherein the brake mechanism is associated with the clutch mechanism so that the brake mechanism shifts

to a non-braking state in accordance with operation of the clutch mechanism to turn on the power transmission whereas the brake mechanism shifts to a braking state in accordance with operation of the clutch mechanism to turn off the power transmission.

5

8. The travel working machine according to claim 7, wherein the non-rotation-side braking member of the brake mechanism is made rotatable and provided with a device for preventing rotation of the non-rotation-side braking member in a direction
10 for driving the PTO shaft and allowing rotation of the non-rotation-side braking member in a direction opposite from the direction for driving the PTO shaft.

9. The travel working machine according to claim 7 or 8, wherein
15 the clutch mechanism and the brake mechanism are fitted to a single shaft, and an operation mechanism is arranged between the clutch mechanism and the brake mechanism for operating the clutch mechanism to switch on the power transmission while shifting the brake mechanism to a non-braking state and operating
20 the clutch mechanism to switch on the power transmission while shifting the brake mechanism to a braking state.

10. A travel working machine comprising a traveling body supported by a traveling contrivance such as a wheel and provided
25 with an engine, a transmission case mounted to the traveling body, and a hydraulic mechanical transmission provided at the transmission case for changing speed of power from the engine

by a combination of a planetary gearing and a hydraulic transmission which includes a hydraulic pump and a hydraulic motor and transmitting the power to the traveling contrivance,

wherein the hydraulic motor comprises two swash plate axial
5 piston motors connected in series, and wherein a hydraulic circuit is provided between the hydraulic pump and the two swash plate axial piston motors so that hydraulic pressure from a discharge port of the hydraulic pump is supplied to the two swash plate axial piston motors and hydraulic pressure from
10 discharge ports of the two axial piston motors is returned to the hydraulic pump.

11. The travel working machine according to claim 10, further comprising a lid plate removably mounted to the transmission
15 case and closing a window penetrating the transmission case, the lid plate including an obverse surface to which the hydraulic pump and one of the two axial piston motors are mounted and a reverse surface to which the other one of the two axial piston motors is mounted.